

REMARKS

The Examiner has acknowledged that claims 3, 4, 6, 7, 9, 13-16, and 19 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Accordingly, the Applicant has amended the claims as follows: claim 3 has been amended to include the limitations of original claim 1; claim 6 has been amended to include the limitations of original claims 1 and 2; claim 7 has been amended to include the limitations of original claim 1; claim 9 has been amended to include the limitations of original claim 8; claims 13 and 15 have each been amended to include the limitations of original claim 12; and claim 19 has been amended to include the limitations of original claims 17 and 18. Additionally, independent claims 8 and 12 have been amended to clarify that the controller and control means, respectively, are integral to the printer.

After the foregoing amendments, claims 1-20 are pending in the application, with claims 1, 3, 6-9, 12, 13, 15, 17 and 19 in independent form and with claims 2, 4, 5, 10, 11, 14, 16, 18 and 20 in dependent form.

Claim Objections

Claim 12 stands objected to for informalities. Specifically, the Examiner states that the Applicant misspelled the word "invocable." The Applicant asserts that the spelling of the word "invocable" is correct. A Google® search of the terms "JAVA and invocable" yields over 1200 hits. Accordingly, the Applicant submits that "invocable" is a term of art used in conjunction with programming languages, especially the JAVA language, as is illustrated in the present invention. It is known in the art, and more specifically, as outlined in the specification of the present invention, that "invocable" refers to the ability of a class or applet to be activated or executed. The Applicant believes that the aforementioned explanation in regard to the word "invocable" overcomes the Examiner's objection of claim 12, and any other amended independent claim incorporating the same spelling thereof. Reconsideration of this objection is respectfully requested.

35 U.S.C. § 102 Rejections

Claims 8, 10-12, and 18 stand rejected under 35 U.S.C. § 102(e) for anticipation by U.S. Patent No. 5,566,278 to Patel et al. Fig. 4 of the Patel et al. patent discloses an object-oriented printing interface (424) that operates on a computer system (400), receives data from an application program (402), formats the data into printer data, and transmits the printer data through a printer handler (414), such as a printer driver of the computer system, to a printer port (418) of the computer system (400). A printer (422) connected to the printer port (418) receives the printer data and prints accordingly.

In contrast, claims 8 and 12, as amended herein, require the controller to be integral to the printer. Since the Patel et al. patent shows the printer handler (414) internal to the computer system and since claims 8 and 12 recite that the controller or control means for invoking each printer configuration instruction or object oriented class included in a printerlet is included in the printer - not the computer, the Patel et al. patent cannot anticipate claims 8 and 12 of the present application, or claims 10 and 11 dependent from claim 8.

35 U.S.C. § 103 Rejections

Claims 1-2, 5, and 17 stand rejected under 35 U.S.C. § 103(a) for obviousness from the teachings of the Patel et al. patent in view of U.S. Patent No. 6,628,413 to Lee.

When considered in their entirety, it is clear that the methods of independent claims 1 and 17 require each printer configuration instruction or at least one object oriented class to be invoked by the printer. For example, claim 1, steps (c) and (d) recite: receiving at the virtual input port (in the memory of a printer) at least one printerlet having at least one printer configuration instruction and invoking each printer configuration instruction.

As can be seen, the printerlet having at least one printer configuration instruction is received at a virtual input port in the memory of a printer. Since the printer configuration instruction has been received at the virtual input port of the memory of a printer, it is clear that the printer configuration instruction is invoked at the printer. Similar comments apply in respect of the at least one object oriented class in independent claim 17. Since the Patel et al. patent does not disclose, teach or suggest any means at the printer itself for invoking a printerlet or

object oriented class, and since the Lee patent does not cure this deficiency in the teachings of the Patel et al. patent in this regard, no combination of the Patel et al. and Lee patents can render obvious claims 1 and 17 of the present application, or claims 2, 5, 18 and 20 dependent therefrom.

The present invention resides in the ability to control a printer to implement various print configurations using a high-level interpretive language, with the functional components of the printer operating in a run-time environment of that interpretive language. Specifically, the processing of raw printer data may be formatted within the run-time environment. This is contrary to the prior art where the raw data is formatted at a remote computer, configured and is thereafter transmitted as formatted printer data to a printer. It is known in the art that formatted printer data is substantially larger in size than raw printer data. A similar comparison can be drawn between manageably sized source code and the corresponding compiled bloated object code. Thus, the memory requirements of the printer of the present invention and the network bandwidth utilized to implement the present invention are reduced. Furthermore, since the classes necessary for performing the various print configurations reside on the printer, instead of requiring the printer to undergo a PDL (page description language) interpreter hardware upgrade, the printer of the present invention may be temporarily or permanently upgraded via the printerlets.

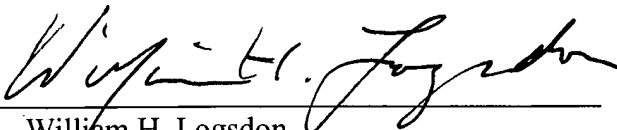
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CONCLUSION

Based on the foregoing amendments and remarks, reconsideration of the rejections and allowance of pending claims 1-20 are respectfully requested.

Respectfully submitted,

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